

## Bangladesh to shed LDC label soon

Key challenges must be addressed

THE government deserves credit for taking steps to better the country's prospects to graduate from the least developed countries' (LDC) category within the foreseeable future. The three criteria are Gross National Income (GNI) per capita, Human Assets Index (HAI) and Economic Vulnerability Index (EVI), and the country has scored well above the minimum threshold for all three categories this year. We need to maintain these scores in all three categories for the next six years to be able to graduate from the LDC club.

The main challenges lie in addressing income criteria, HAI and EVI. What we need to remember is that a LDC must meet at least two of these three criteria to remain on track. Hence, it is up to the government to smoothen the journey by keeping focus on reducing the percentage of undernourished population if we want to meet the HAI index. Similarly, extra emphasis needs to be put on rehabilitation efforts for the homeless in an age of climate-induced natural disasters—a scenario that is not new to this country. Policymakers will have to come up with ways to increase agro-production in a country where increasingly, farmlands are being grabbed and turned into industry and real estate.

We have to remember that once we graduate from LDC, the country will not continue to enjoy certain privileges that only LDCs enjoy, particularly the low interest rate credit available from major multilateral financial institutions like the World Bank and ADB. In that case Bangladesh may not be getting preferential access to the major export destinations. Indeed, according to the government's own estimates, Bangladesh is likely to lose around USD 2.7 billion in export earnings once it is no longer a LDC. These are serious issues that will have to be addressed so that the economy and the people can adjust to the likely upshots when we graduate in 2024.

TIGERS' T20 TRIUMPH

## We're proud; sorry as well

WE congratulate Bangladesh national cricket team on its first-ever ascension to the final of any tournament abroad. Keeping aside the statistics, one cannot expect more from a T20 match. The fate of the match was swinging until the penultimate ball that Mahmudullah sent for a six, which was all Bangladesh needed.

The game was full of emotion, drama, excitement and the sheer uncertainty, which people would remember many days from now.

However, there's a limit as to how much one should go as far as a cricket match is concerned. The win was marred by some unpalatable incidents on and off the field, which shouldn't have happened. We are glad that Shakib Al Hasan, our skipper, admitted that there was a need for composure. The players must learn to inculcate these traits.

Bangladesh's dressing room was reportedly vandalised, probably during the high point of all the excitement. That was uncalled for. Moreover, Bangladesh's supporters in Sri Lanka were reportedly harassed and assaulted by some local fans. That was disappointing. The Sri Lankan security apparatus in the stadium should have been more cautious. Never should the happenings in the ground spill over outside.

Apart from the unpleasant incidents, the match was enjoyable to watch. With Tigers now facing India, we hope the final match will be even more exciting. We wish the Tigers all the best.

## LETTERS TO THE EDITOR

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### Breaking the taboo

The Daily Star published an excellent story titled "For the women by the women" on March 9. I commend the paper for writing on a taboo subject like menstrual hygiene. Reportedly, 89 percent of women in Bangladesh use rags and other harmful materials to deal with their period.

Many of us feel shy to talk about the issue and consider it to be very personal. I recall that even in my biology class, people seemed to be reluctant to talk about it. Our teacher avoided the topic titled Menstrual Hygiene Management (MHM), asking us to read it at home. So the fact that The Daily Star is writing on this subject to break the silence is exemplary and should be emulated by others.

Salina Akter Rita, By email

### Digital divide in the name of 4G

A few days ago, Bangladesh's five mobile operators launched 4th generation (4G) network technology, which was followed by flashy advertisements. However, we are now hearing that it will take three more years to make 4G coverage fully available across the country. For the time being, the technology will be limited to Dhaka and some other big cities.

In reality, even stable, good-quality 2G coverage—let alone 4G—is not available everywhere in the country. In this context, 4G coverage in big cities is actually bridging the digital divide between cities and rural villages. I urge the mobile operators and authorities concerned to focus on ensuring quality 2G and 3G coverage across the country first. Then, maybe, we can talk about 4G.

Md Tarek Aziz Bappi, By email

# Farewell to a brilliant mind

Stephen Hawking left behind an unmatched legacy—not only through his contributions to quantum physics but also his impact on the global scientific community



MAHBUB MAJUMDAR

STEPHEN HAWKING died on Pi Day—March 14, which is also Einstein's birthday. He was born on another special day—Galileo's 300th death anniversary. It goes without saying that Hawking had a massive impact on not only gravitational physics, but also the world at large.

While I was a student at Cambridge, Hawking's office was down the hall from mine. We were in the same department—the Department of Applied Mathematics and Theoretical Physics in the Mathematics Faculty. Although it was difficult to talk to him because he could only speak using a computer, he was available to students like myself.

At the time I was in Cambridge, string theory was the hottest topic, and Hawking was unambiguously cold about it. He is even rumoured to have used a four-letter word to describe string theory. Being a young student working on string theory and cosmology, I therefore didn't feel much need to talk to him. But like many others, I was eventually deeply influenced by him and his vision.

Over the last decade, Hawking's work on "black hole information paradox" has become one of the central issues to be understood by string theorists and the high-energy physics community all over the world. Even my students in Bangladesh, from BRAC University and from BUET, were inspired and influenced by him and wrote their theses on the black hole information paradox. For example, the first calculation some of them had to perform was Hawking's famous calculation that black holes emit radiation. Mishkat Al Alvi, Avik Roy, and Moinul Hossain Rahat from BUET wrote a thesis titled, "A quantum information theoretic analysis of the black hole information paradox..." My BRAC University students, Reefat and Ashiq Rahman, wrote their theses on different aspects of the black hole information paradox. Even a group of my computer science students at BRAC University, Paresha Farastu, Rafiduzzaman Sonnet, Suddat Hasan, and Sandipon Paul, who worked on quantum algorithms, had to repeat Hawking's classic calculations to understand the basics of quantum computing.

When students from different

departments—maths, physics and computer science—living in various developing countries have to study your work, then you know you have made an incredibly rich contribution to global scientific culture. Professor Hawking's contributions to black hole physics, quantum information and early universe cosmology are certainly of fundamental importance and are now studied everywhere. However, perhaps his more important contribution was the creation of a whole generation of scientists, particularly British scientists who have

University of Texas, was Gary Gibbons' student, and the string theorist Tibra Ali, now at the Perimeter Institute, was Malcolm Perry's student.

In some sense, Hawking's impact as a nation builder using math and science may be even more important than his role as a creative genius. He is primarily responsible for creating the largest mathematics department in the world—the Centre for Mathematical Sciences (CMS) at the University of Cambridge, where I was a PhD student. This is one of the greatest sources of

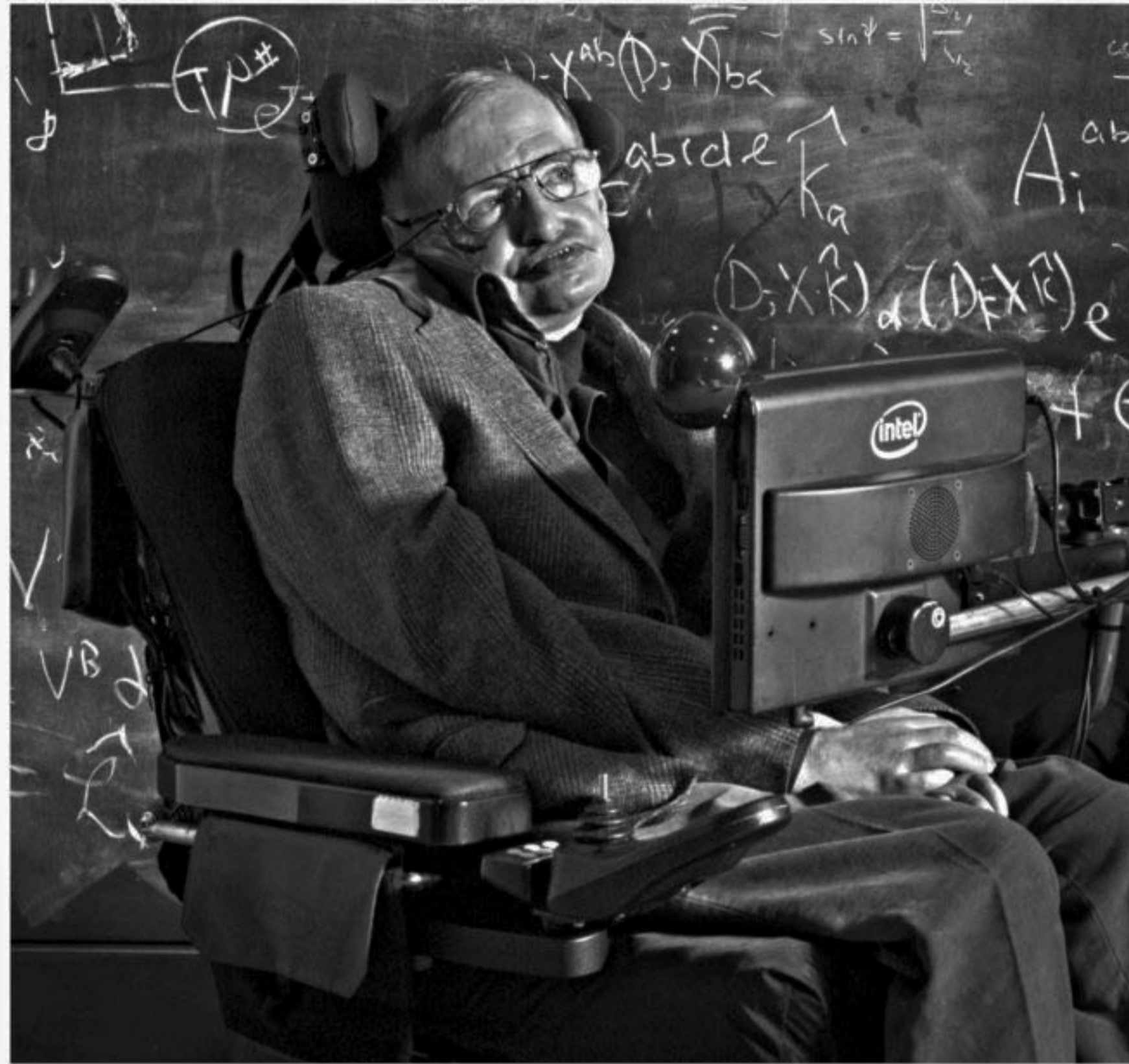
influence, this became possible. This is an everlasting legacy for mankind. This is a "sadaqajariya" in Bangla.

This vision of nation building through mathematics is something that I, and others at the Bangladesh Mathematical Olympiad, such as Munir Hasan, Professors Kaykobad, Jamilur Reza Choudhury and Zafar Iqbal, have been pursuing over the past decade. We have helped create a generation of immensely talented students who will shape future Bangladesh science and culture. We have sent dozens of unbelievably brilliant students to places like MIT, Cambridge and Harvard. We had to send them abroad because the infrastructure doesn't exist in Bangladesh to develop them into world-class scientists and engineers. We also have a much larger group of exceptionally talented students who have stayed in Bangladesh. Some of them have already left or are in the process of leaving to study at outstanding institutions abroad. For example, University of Dhaka graduates Nafiz Ishtiaque and Wasif Ahmed will be at the Perimeter Institute. BUET graduates like Avik and Rahat have already left. Even some of my students at BRAC University will go off to world-class places like Utrecht and Waterloo this year. They will become stars in the future.

We are already seeing some of the fruits of this nation building. Some of these students have already started returning and are making contributions. For example, Tamanna Islam Urmi recently came back from MIT. She is working on green energy and at my insistence is now teaching part-time in the computer science department at BRAC University. We hope to be able to completely emulate Hawking's nation building achievements in the future by creating a world-class math and science faculty like Hawking's Centre for Mathematical Sciences to enable these exceptional people to find an academic home and make contributions.

It is a testament of Stephen Hawking's uniqueness that we start by describing his contributions to black hole physics and end up talking about his impact on Bangladeshi students and education. Today, we mourn his death, but celebrate his influence and impact—even on Bangladesh.

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Iconic physicist Stephen Hawking created a whole generation of scientists who have led the field of mathematical relativity, quantum gravity, and black hole physics over several decades.

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Many of the top relativity experts in the world were Hawking's students, post-docs or close collaborators. For example, Gary Gibbons, Don Page, Chris Pope, Raphael Bousso, Kip Thorne, Malcolm Perry and many others were Hawking's protégés. Hawking can even be considered the academic grandfather of some of the best young Bangladeshi scientists. The mathematician Mohammad Akbar, now at the

pride and assets of the United Kingdom and can be said to be the biggest showpiece institution at any British university. CMS has ensured that Great Britain and Cambridge will remain at the forefront of not just mathematics, but science over the next 50 years. Without Professor Hawking, Cambridge would not have been able to raise over 100 million pounds in donations for the Centre, let alone the 10 million pounds needed just for its library. Nobody before this was able to afford spending 100 million pounds on a mathematics department. But with Hawking's

## TRANSPORT SECTOR ANARCHY

# A journey by bus from Dhaka to Nalitabari



BIRU PAKSHA PAUL

SHOULDN'T people derive delight from travelling? Then why is it such a nightmare for people who use public transport in Bangladesh? My short story of a journey by bus from Dhaka to Nalitabari may give readers a glimpse of why.

I used to start my journey to our ancestral home in Nalitabari usually on a Friday morning. Given the distance, the journey shouldn't take more than three to four hours.

Since three-wheelers don't follow any rules, CNG drivers often try to read your mind like psychologists and squeeze out whatever fare they can from your urgency in the morning. When you reach the Mohakhali Bus Terminal, it will be full of life like New York City's Port Authority Bus Terminal, but with the additional honking of vehicles and screaming of transport workers resembling a disaster-hit-zone.

Passengers are stranded here and there, bus stands are everywhere, women are helpless, waiting rooms are absent and bathrooms are as dirty as they get, although you must pay to use them. There are no rules on how buses should exit the terminal and get onto the road; you will face gridlocks; hear helpers shouting; and find it difficult to reach your desired ticket booth. Still you must gird up your loins for further adventures.

The bus fare from Dhaka to Nalitabari has remained around Tk 300 for years, ignoring the "peanut-like" fuel price adjustments by the energy ministry. Had the adjustments been any bigger, I doubt whether bus owners would have increased fares as they believe in Keynesian economics of downward rigidity of prices. Even three days before (either) Eid they would charge you only double the standard fare, applying the price determination theory and the fair play of demand and supply.

Most buses will claim to be nonstop, express, first class and of business-class quality—all lies. Try to avoid the seats at the extreme end as that would surely lead

to abdominal pains from travelling on roads that mimic the moon's surface. Avoid front seats as well because the driver will resort to braking hard on multiple occasions, getting you to dash against the partitioning grills or windshield.

Some passengers will be forced to sit around the gear box, while others may rest their heads on your lap, fatigued from the endless side-to-side and back-and-forth motion. Carry anti-vomiting tablets because the conductors may run out of plastic bags.

There is no standard space between seats. You would be lucky if your height is less than five feet and your legs are

concerned as human bodies can donate blood regularly with only an eight-week interval in between. Any attempt of yours to take a nap while travelling will fail for a number of reasons. Sometimes buses will stop in the middle of the road and drivers will engage in cursing each other in an attempt to prove who knows the rules of the road better.

Your journey from Mohakhali to the airport will hopefully be all right, but the real misery begins from there till you cross Gazipur. That is perhaps where the country's infrastructure faces the worst kind of problems. You will notice drains on both sides of the road; hold your handkerchief to your nose like a newly

providing complete impunity to such wrongdoers. There are no rules on how to overtake vehicles in front.

At some point, you will reach Mymensingh after having faced a number of jams at every little town where there are other buses. They are comfortable picking and dropping passengers right in the middle of the road. The police look at it as normal.

Things get difficult again at least until you have passed the Brahmaputra Bridge, which often turns into a parking station, just like the hanging garden of Babylon. After crossing Tarakanda, Fulpur and Nakhla, you will definitely reach Nalitabari at some



Only bricks have been laid on a portion of Dhaka-Mymensingh highway at Nog of Gazipur making it extremely difficult for vehicles to ply on them.

PHOTO: AMRAN HOSSAIN

unusually short to fit on a window-side seat. Do not complain if the seat is broken, its handle has fallen apart and the window glass is missing. The conductor will offer you an alternative seat on a bamboo stool randomly placed in the aisle along with ducks, hens, or goats.

The seat cover is usually torn out to let bugs travel freely from their dens to your skin; be tolerant towards them if they only occasionally bite you. Do not be too

wedded groom, you are going to need it. From Gazipur to Mymensingh, the journey should be speedy because it is supposedly a four-lane road. But that, again, is another deception. Slow-moving vehicles such as Korimons, Nosimons and Bhotbotis are banned on highways. Who cares? They swagger daringly and even move in the wrong direction, forcing speedy vehicles to come to a grinding halt. When ghastly accidents happen, we become fatalists,

point and remember the journey for the rest of your life—gratefully, too, as you are still alive.

Do not attempt to say anything to the driver, doesn't matter if you think it valid. Remember, fights may jeopardise your life. Do not forget, their leader is very powerful and is probably sitting cosily somewhere in Dhaka.

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